

Remarks

Reconsideration of the application, and allowance of the claims are respectfully requested for the reasons set forth below. Claims 8-20 remain pending.

Claims 8-20 were rejected in the final Office Action under 35 U.S.C. §102(b) as being anticipated by Kishi (U.S. Patent No. 6,163,773; hereinafter Kishi). This rejection is respectfully strenuously traversed, and reconsideration thereof is requested.

Applicants request reconsideration and withdrawal of the anticipation rejection on at least the following grounds: (1) the final Office Action fails to state a *prima facie* case of anticipation against Applicants' claimed invention; and (2) the final Office Action has misinterpreted the teachings of Kishi, thus voiding the basis for the rejection.

Applicants claim (e.g., in claim 8) a request management system which includes a computer environment with a requester, a request manager, and a data object manager of a storage subsystem which includes a cache. In Applicants' recited request management system, the computer environment includes:

- means, *responsive to receipt of the first request at the request manager, for automatically informing, by the request manager, the data object manager of an anticipated, second request to be subsequently received by the data object manager from the requester.*

Although the final Office Action repeats at page 2 the language of Applicants' above-noted protocol for automatically informing by the request manager the data object manager of an anticipated, second request to be subsequently received by the data object manager from the requester, there is no discussion in the Office Action of this "automatic informing" protocol recited by Applicants. In the rejection, Applicants' anticipated, second request is analogized to the event trigger 406 in Kishi. As discussed below, this is believed to be a mischaracterization of the teachings of Kishi as applied against Applicants' claims. However, notwithstanding this characterization, there is no discussion of *automatically informing* by a request manager, the data object manager of the storage subsystem (which contains the cache) of the anticipated, second request. Since the applied art does not teach or suggest such an automatic informing by the request manager to the data object manager, and since the automatic informing has not been addressed in the Office Action, Applicants respectfully submit that their independent claims patentably distinguish over Kishi.

In addition to there being no *automatic informing* or telling *by the request manager to the data object manager* of the anticipated, second request (for access to a data object), there is no teaching in Kishi that *the anticipated, second request to be received by the data object manager from the requester is at least partially ascertainable from meta data associated with the first request*. In Applicants' recited protocol, there is a relationship established between the meta data associated with the first request and the request manager being able to inform the data object manager of the anticipated, second request. There is no teaching in Kishi that the "last access" analogized in the final Office Action to Applicants' first request is in any way related to the "trigger event 406" analogized in the final Office Action to Applicants' second request. Thus, there is no teaching in Kishi that meta data associated with a first request from a requester received at a request manager is employed by the request manager in automatically informing the data object manager that a second request from the requester is to be anticipated. For this additional reason, Applicants respectfully submit that their independent claims patentably distinguish over Kishi.

Still further, Applicants' independent claims recite that the data object manager prepares for the anticipated, second request by adjusting utilization of a cache of a computer environment based on information derived from the meta data associated with the first request by the request manager *before the anticipated, second request is received at the data object manager from the requester*. Applicants' protocol is prospective in that action is being taken by the data object manager *before* the anticipated second request is received by the data object manager. In contrast, Kishi describes a backwards-looking algorithm wherein a single output back propagation neural network is trained in response to various event triggers. According to a predefined schedule, the cache measurement engine operates the trained neural network to generate scores for cached data sets. These scores rank the data sets relative to each other, and this ranking is employed to determine which data set to be deleted when the cache is full. In this regard, reference FIG. 6, inquiry 612 and instruction 614 of Kishi. There is no discussion in Kishi of adjusting utilization of a cache of a computer environment *before* the anticipated, second request is received at the data object manager from the requester. The actions taken in Kishi are responsive to a trigger event, which is analogized in the final Office Action as being a second request. These actions are only taken when the trigger event has been received. Thus, the protocol described by Kishi does not anticipate Applicants' claims.

In addition to the above, Applicants respectfully submit that the final Office Action misinterprets the teachings of Kishi in applying those teachings to the independent claims presented. For example, the final Office Action asserts that the trigger event 406 is the anticipated, second request recited in Applicants' invention. This is respectfully submitted to be erroneous. In Applicants' recited protocol, the anticipated, second request to be received by the data object manager is characterized as being at least partially ascertainable from meta data associated with the first request received by the request manager. There is no teaching in Kishi of a relationship between the last access (analogized as Applicants' first request) and the event trigger (analogized as the second request), let alone that the anticipated, second request is partially ascertainable from meta data associated with the first request received by the request manager. For at least this additional reason, Applicants respectfully submit that the independent claims presented herewith patentably distinguish over Kishi.

To summarize the above, Kishi does not describe a request manager and a data object manager as two separate entities which communicate *per se*, let alone which communicate the specific information recited in Applicants' independent claims. There is no automatic informing in Kishi by a request manger that an anticipated, second request will be received by the data object manager from the requester. Further, there is no teaching in Kishi that this anticipated, second request is partially ascertainable from meta data associated with the first request received by the request manager, or that the data object manager adjusts utilization of the cache before the anticipated, second request is received. These aspects of Applicants' invention are simply not taught by Kishi. For at least these reasons, Applicants respectfully request reconsideration and withdrawal of the anticipation rejection to the pending independent claims.

The dependent claims are believed allowable for the same reasons as the independent claims, as well as for their own additional characterizations. For example, claims 10 & 17 recite that the data object manager prepares for the anticipated, second request by making note that the data associated with the anticipated, second request is not to be cached. No similar protocol is taught by Kishi. Column 12, lines 11-60 are cited, and in particular, expiration of the data set access log entry. However, Applicants respectfully submit that this citation is not relevant to Applicants' recited invention. Expiration of a data set access log entry does not teach making note by a data object manager that data associated with the anticipated, second request is not to be cached. There is no relevancy to the recited subject matter.

Additionally, claims 11 & 18 recite that the data object manager prepares for the anticipated, second request by managing the requester's access to the data. In Applicants' recited protocol, the data object manager *manages the requester's access to the data*. Column 8, lines 25-39 of Kishi are recited for an alleged teaching of this concept. These lines state:

As discussed below, the occurrence of an event trigger activates the cache management engine 105 to compile and store various training data. As one example, the event triggers established in step 404 may include (1) access of a cached dataset by the controller 104, thereby corresponding to a new entry in the dataset access log 114,m and (2) expiration and removal of a dataset from the dataset access log 114. The event triggers are selected by a user, such as an operator, system administrator, programmer of the engine 105, etc. The triggers may be established in step 404 by storing data representing the triggers in a location accessible to the engine 105, programming the engine 105 to recognize the triggers, or another technique.


A careful reading of the above-noted discussion from Kishi fails to uncover any relevancy to a data object manager's managing of access to data *per se*, let alone managing of an anticipated, second request. In Applicants' recited protocol, the second request has not been received, when the data object manager is taking action. There is clearly no "look ahead" processing in Kishi, as recited in Applicants' claims.

This paper represents Applicants' first opportunity to have commented on the new rejection to the pending claims set forth in the final Office Action. For the reasons stated herein, Applicants request reconsideration and withdrawal the rejection set forth.

All claims are believed to be in condition for allowance, and such action is respectfully requested.

If a telephone conference would be of assistance in advancing prosecution of the subject application, Applicants' undersigned attorney invites the Examiner to telephone him at the number provided.

Respectfully submitted,


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